Newport Naval Education and Training Center
Newport, Rhode Island

Engineering Field Division/Activity:	NORTHDIV
Major Claimant:	CNET
Size:	1,400 Acres
Funding to Date:	$26,745,000
Estimated Funding to Complete:	$61,299,000
Base Mission:	Training center and provides logistics support
Contaminants:	Base-neutral and acid extractable organics, PCBs, volatile organic compounds

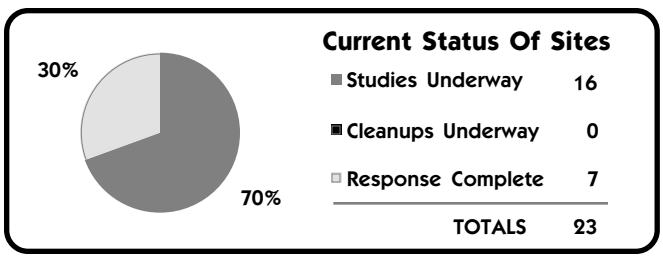
Number of Sites:		**Relative Risk Ranking of Sites:**			
CERCLA:	19	**High:**	11	**Not Evaluated:**	1
RCRA Corrective Action:	0	**Medium:**	4	**Response Complete:**	7
RCRA UST:	4	**Low:**	0	**Total Sites:**	23
Total Sites:	23				

NPL

EXECUTIVE SUMMARY

Newport Naval Education and Training Center (NETC) is located 60 miles south of Boston, Massachusetts and 25 miles southeast of Providence, Rhode Island. The installation is spread along six miles of the western shoreline of Aquidneck Island, north of Newport, Newport County, Rhode Island. Newport NETC facilities are also on Gould Island, west of Aquidneck Island. NETC currently covers 1,439 acres; prior to 1973, it covered 2,692 acres. The excess acres were turned over to the General Services Administration (GSA) in 1973. NETC was used as a refueling depot beginning in the early 1900's. Refueling facilities were expanded during World War II (WWII), as the base had a much larger role then as the home port for many warships. After WWII, the installation was restructured to support research, development and specialized training. Currently, NETC provides education and training to naval officers. Past operations included boiler plant maintenance, pest control, stormwater collection, sewage collection and treatment, bilge water disposal, hazardous waste disposal, fueling operations, waste oil recovery, sludge disposal, ordnance operations and materials storage. Landfills contain contaminants that could potentially affect nearshore sediments as well as groundwater and surface water. The Navy has changed its operational processes to prevent further contamination. The primary contaminants of concern are the chemical additive PCB, copper, tetra-ethyl lead and ethyl benzene. A Federal Facility Agreement (FFA) was signed in 1992 with the EPA which provides a schedule and plan for site cleanup.

Newport NETC is situated along the shoreline of Aquidneck Island, and surface runoff quickly finds its way into Narragansett Bay. All of the streams which receive drainage from areas of NETC also discharge directly into the bay. The groundwater moves in a westward direction and discharges into the bay. None of the streams or ponds within the boundaries of Newport NETC are used for potable water. The potable water supply for NETC is purchased from the City of Newport which utilizes a series of reservoirs. Groundwater at NETC, including Gould Island, is generally within a depth of 10 feet. The groundwater in areas close to the bay is often within just 2 or 3 feet of the surface. This shallow depth, coupled with the facts that the average annual precipitation is 43 inches and that the soils are moderately permeable, makes contamination of the groundwater possible. There are no wells within the boundaries of NETC, with the exception of Gould Island, but numerous wells exist in close proximity. These are domestic wells, but they are upgradient from NETC and are not threatened by the activity.



A Technical Review Committee (TRC) was formed in April 1988, and was converted to a Restoration Advisory Board (RAB) in FY95. The first formal RAB meeting will be held early in FY96. Information Repositories were set up in June 1990 at public libraries in Newport, Middletown, and Portsmouth, Rhode Island. An Administrative Record was established in December 1991.

At the end of FY95, 16 sites were in the study phase and four removal actions were completed. Site 13 has a Record of Decision (ROD) for groundwater and pump and treat is active. A ROD has been completed for Site 1 and a cap is under construction at the landfill. A treatability study for the use of cement for fixating Toxic Characteristics Leaching Procedure (TCLP), lead solids, excavated from the landfill at Site 2, was completed in FY95 with indications of feasibility for the procedure. A second treatability study for the destruction of petroleum contamination in the soil by using an innovative technology, white rot fungus, was initiated. Also in FY95, used sandblast grit was removed at Site 19. The grit from Site 19 and the treated soil from Site 2 is being used as fill material under the cap at Site 1 for cost savings. Off shore Ecological Risk Assessments (ERA) are underway at Sites 1 and 19. ERA will begin at Site 9 in FY96. An onshore Study Area Screening Evaluation (SASE), which includes an ERA, will begin at Site 19 in FY96.

There are eight Formerly Used Defense Sites (FUDS) at NETC Newport; Sites 2, 3, 5, 6, 14-16 and 18. The Navy is conducting a Remedial Investigation/Feasibility Study (RI/FS) at Site 2 (Melville North Landfill) and the Army Corps of Engineers will be conducting further investigation for the other FUDS sites (Sites 3, 5, 6, 14-16 and 18). These seven FUDS sites are Response Complete (RC) in the Navy's program due to transfer to the FUDS program.

NEWPORT NETC
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - Newport NETC is situated along the shoreline of Aquidneck Island, and surface runoff quickly finds its way into Narragansett Bay. All of the streams which receive drainage from areas of NETC also discharge directly into the bay. None of the streams or ponds within the boundaries of NETC, present or past areas, are used for potable water. The potable water supply for NETC is purchased from the City of Newport. The upper portion of the bay, in the vicinity of Providence, is much more industrialized than the lower portions of the bay where NETC is located and is likely to be more contaminated. The Melville Fishing Area occurs just off-site.

Groundwater at NETC, including Gould Island, is generally within a depth of ten feet. The groundwater in areas close to the bay is often within just two or three feet of the surface. This shallow depth, coupled with the facts that the average annual precipitation is 43 inches and that the soils are moderately permeable, makes contamination of the groundwater possible. The groundwater moves in a westward direction and discharges into Narragansett Bay. The groundwater is not being utilized at NETC, although during World War II, wells supplied the potable water on Gould Island. NETC receives its potable water from the city of Newport which utilizes a series of reservoirs. There are no wells within the boundaries of NETC, with the exception of Gould Island, but numerous wells exist in close proximity. These are domestic wells, but they are upgradient from NETC and are not threatened by the activity.

One possible off-site source of environmental contamination is an unofficial landfill on Portsmouth town property which is located adjacent to NETC in the Melville North area. This landfill receives mostly municipal refuse type wastes. The groundwater in the area could be adversely affected by potential contaminants disposed of at this site. The groundwater in the area of the landfill is migrating towards NETC. According to a 1986 report, sediments collected from Narragansett Bay just off the shoreline of McAllister Point Landfill contain lead, copper and nickel. Surface water and groundwater flow from the landfill into the bay, which is used for boating and fishing. Because the bay is an inlet to the Atlantic Ocean, it is influenced by tides. One tank farm is 300 feet from a coastal wetland.

NATURAL RESOURCES - There are no visible signs of stress to the bay biota along the NETC shoreline. There is a “dead zone” in the bay adjacent to Derecktor Shipyard where no biota can be observed. It is unknown if this is the result of contamination or lack of oxygen produced by poor water circulation. The entire shoreline of NETC is closed to commercial shellfishing. However, much of the remainder of the bay is open to shellfishing. The materials within the landfills and other potential contamination sites on the base may cause chronic or acute effects on area biota. Possible receptors include shellfish, plankton and mummichog/cunner fish. The shellfish have life histories which include filter feeding and burrowing in the sediments. This tends to accumulate contaminants in the body tissues. Shellfish in the bay having these characteristics include quahogs, soft shelled clams, oysters and blue mussels. All of these organisms are heavily harvested and consumed by humans. The plankters most affected by potential contaminants would be the early life stages of fish and shellfish. The eggs and larvae are non-mobile and remain suspended in the water column. In this stage of development, sensitive tissues and membranes are not protected as in adults and leaves them susceptible to contaminants. There is a commercial mussel farm (Blue-Gold Sea Farm) located on the northern border of the NETC waterfront. Mussels from this farm are commercially harvested and shipped throughout the United States for human consumption.

RISK - A Baseline Human Health Risk Assessment for Sites 1, 2, 9, 12 and 13 was completed in November 1991. An offshore Ecological Risk Assessment for Site 1 was also completed in November 1992.

Under the DOD Relative Risk Ranking System, 11 sites and one Underground Storage Tank (UST) site Newport NETC received a high relative risk ranking. These sites include two landfills, two tank farms, a fire fighting training area, an electroplating shop and a shipbuilding area. Groundwater and sediments are the primary media affected by the landfills. Receptors are human and ecological. Landfill wastes include solvents, paints and the chemical additive PCB. The tank farms were storage areas for various fuels. Primary media affected is groundwater. The fire fighting area has free product and metals contamination. Affected media are groundwater, soils and sediment. Migration is towards the bay due to tidal flushing. The bay is a recreational area.

The electroplating shop had waste discharged directly to the ocean through discharge pipes. The shipyard area had large quantities of oils, paints and solvents released into the soils. Metals and the chemical additive PCB have been detected in sediments. Potential receptors include ecological and humans through the ingestion of shellfish. To reduce risk, a RCRA Subtitle C cap willl be placed over Site 1, including shore protection. Hot spot soil removals are planned for Site 2. Since NETC is on the National Priorities List (NPL), the Agency for Toxic Substances and Disease Registry (ATSDR) completed a Public Health Assessment in June 1993.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NETC Newport was proposed for the National Priorities List (NPL) in July 1989. In November 1989, NETC was listed on the NPL with a Hazard Ranking System (HRS) score of 32.25. EPA combined data from two sites, Site 1 (McAllister Point Landfill) and Site 7 (Tank Farm #1) to determine the HRS score. Since the sites are not contiguous, the Navy recommended revising the score to assess each site individually, but no rescoring was done. Contaminants of concern from these two sites were the chemical additive PCB, copper, and the fuel components tetra-ethyl lead and ethyl benzene. Migration routes of concern were groundwater and surface water.

LEGAL AGREEMENTS - Concurrent with Phase I of the Remedial Investigation/Feasibility Study (RI/FS), a Federal Facility Agreement (FFA) was signed between the Department of the Navy (DON), State of Rhode Island and EPA Region 1 on 23 March 1992. The FFA identified a total of 18 sites, six Study Areas (SAs 4, 7, 8, 10, 11 and 17), and four Areas of Concern (AOCs 1, 9, 12 and 13). Newport NETC was issued a RCRA Hazardous and Solid Waste Amendments (HSWA) permit in 1986. This permit includes a schedule for cleanup of Solid Waste Management Units (SWMUs) under the RCRA Corrective Action process.

PARTNERING - In FY94, the Navy partnered with the University of Rhode Island School of Oceanography to conduct estuarine Ecological Risk Assessments in Narragansett Bay. Ecological Risk Assessments began at Sites 1, 9 and 19 with the assistance of the university.

The installation was involved in two partnering sessions. The Navy, Trustees and regulatory agencies shortened document turn around time by clarifying lines of communication and incorporating meetings into the document review process. Consensus statements on issue resolution were produced by the participants. Another partnering session involved the Navy and the contractors who are performing the studies and cleanups.

The installation held a formal partnering session with EPA Region I and the Rhode Island Department of Environmental Management (RIDEM) 30-31 August 1995.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed and meetings have been held periodically since April 1988. The TRC was converted to a Restoration Advisory Board (RAB) in FY95. The RAB will have their first meeting in February 1996.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was completed in July 1990. An update of the CRP will be completed in the spring of 1996.

Newport NETC

INFORMATION REPOSITORY - Three Information Repositories were set up in June 1990 at the Newport Public Library, Newport, Rhode Island, at the Middletown Public Library, Middletown, Rhode Island, and at the Portsmouth Public Library, Portsmouth, Rhode Island. An Administrative Record was established in December 1991. Copies of some of the Administrative Record documents are contained in the Information Repositories.

HISTORICAL PROGRESS

FY83

Sites 1-18 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), was completed in 1983 and identified 18 potentially contaminated sites at Newport NETC. Sites 1, 2, 5-7, 10-15, 17 and 18 were recommended for further studies. No Further Action (NFA) was recommended for Sites 4, 8 and 9; however, these sites were brought back into the program during the Remedial Investigation/Feasibility Study (RI/FS) phase. Sites 3 and 16 are not discussed in the IAS because they were determined to be outside the scope of the Naval Assessment and Control of Installation Pollutants (NACIP) program.

FY86

Sites 1, 2, 7, 12, 14 and 17 - A Confirmation Study (CS), equivalent to a Site Inspection (SI), was completed. Additional work was recommended for five sites. NFA was recommended for Site 17, however, the site was brought back into the program during the RI/FS phase.
Sites 1, 2, 7, 10-14 and 17 - Newport NETC was issued a Hazardous and Solid Waste Amendments (HSWA) permit and identified nine Solid Waste Management Units (SWMUs). The closure plans for these SWMUs are being handled through the RCRA Corrective Action Plan (CAP) and will include remediation of soil contamination. The groundwater contamination for the SWMUs will be addressed under CERCLA.

FY91

Sites 1, 2, 9, 12 and 13 - A Phase I RI/FS which began in 1989 was completed. Even though Site 2 was determined outside the property boundaries of Newport NETC and classified as a Formerly Used Defense Site (FUDS), the Department of the Navy decided to include this site in the Phase I RI/FS. Additional work was recommended for all sites.

FY92

Sites 2, 3, 5, 6, 14-16 and 18 - The Federal Facility Agreement (FFA) determined these sites to be outside the property boundaries of NETC Newport and they were classified as FUDS.
Sites 1, 2, 9, 12 and 13 - A Phase II RI/FS began.
Sites 4, 7, 8, 10, 11 and 17 - These sites were included in the RI/FS in 1992.
Sites 4, 8 and 17 - A Study Area Screening Evaluation (SASE) work plan, analogous to a mini-RI/FS, was completed.
Sites 7, 10 and 11 - The Defense Logistic Agency (DLA) continued study at these tank farms, with periodic reports submitted to NETC. No other studies are ongoing or planned for these sites.
Site 13 - An Interim Record of Decision (IROD) for Site 13 (Tanks 53 and 56) Tank Farm #5 was signed in September 1992. The remedy consists of groundwater extraction, treatment using coagulation/filtration and ultraviolet (UV) oxidation and Long Term Monitoring (LTM). The remedy will prevent migration of contaminants.

FY93

Site 1 - A Phase II Remedial Investigation (RI) was completed. A Record of Decision (ROD) specifying the Remedial Action (RA) for McAllister Point Landfill was signed in September 1993. The RA consists of securing and isolating the landfill contents utilizing a multilayer cap in combination with fencing, surface controls, deed restriction and LTM. This is the final action for Operable Unit (OU) 1.
Site 2 - A removal action, consisting of the removal of petroleum contaminated soil, was completed.

FY94

Site 1 - The Remedial Design (RD) to cap the landfill was completed.
Site 2 - The RD was completed for additional hot spot removals at the landfill.
UST 2 - Tank removal was completed and free product recovery began in September 1994 and is still underway.

PROGRESS DURING FISCAL YEAR 1995

FY95

Site 1 - Began construction of the cap for the landfill.
Site 2 - A treatability study for the use of cement for fixating Toxic Characteristics Leaching Procedure (TCLP) lead solids excavated from the landfill was completed with indications of feasibility for the procedure. A second treatability study for the destruction of petroleum contamination in the soil by using an innovative technology, white rot fungus, has been initiated.
Site 19 - Removal of used sandblast grit was completed. The grit was then used as fill material under the cap at Site 1.
UST 3 - Began removal of tank contents.
USTs 3 and 4 - Completed RIs.
Site 17 - A Study Area Screening Evaluation for the electroplating shop will occur.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Site 1 - Construction of the RCRA cap will be suspended over the winter of FY96 with the implementation of an erosion control and protection shutdown plan. The cap is expected to be completed in the summer of 1996. The Fate and Transport Model, used for predicting the pathway of any contaminants migrating from the landfill through the groundwater, will be evaluated during the Feasibility Study (FS) to assess the need for RA regarding the groundwater and near shore sediments.
Sites 1 and 9 - The FY95 funding recision postponed the following Newport NETC projects: FS for Site 9 (Old Fire Fighting Training Area), and the Landfill Management of Migration Plan for Site 1 (McAllister Point Landfill) OU 2. FY97 funding will be applied toward Site 1 and or, OU 2 design, if required.
Sites 1, 9 and 19 - The Ecological Risk Assessment is expected to be completed.
Site 2 - A removal action to remove petroleum contaminated soil hot spots will be conducted.
Sites 2 and 9 - The RI is expected to start.
Sites 2, 12 and 13 - RIs will be started.
Site 19 - Begin Study Area Screening Evaluation.

FY97

Sites 2, 12 and 13 - The FS is expected to start.

NEWPORT NETC
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	19							
SI	6							
RI/FS				3	2	2		5
RD					2	4	1	5
RA						1	2	9
IRA		1(2)	3(3)					1(1)
RC	7					1	2	9
Cumulative Response Complete	37%					42%	53%	100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	2	2						
INV								
CAP			4					
DES				3				
IMP						2	1	
IRA		1(2)		1(2)				
RC			1			1	1	1
Cumulative Response Complete			25%			50%	75%	100%